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UNITED STATES DEPARTMENT OF AGRICULTURE
Office of Marketing Services
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STANDARDIZED PROCEDURE FOR BUTTER GRADERS

To: All Butter Graders

From: B. J. Ommodt, Inspection and Grading Division, Dairy and Poultry Branch

Subject: Facilities, Conditions, and Techniques Essential for Uniform Application of U. S. Standards and Grades of Creamery Butter

The uniform and proper application of the U. S. Standards for Grades of Creamery Butter is highly essential in order to render an impartial and efficient service to the industry. To obtain and maintain such uniformity, the grader must observe certain fundamental requirements including adequate facilities, proper conditions and temperatures, and approved methods and techniques. The following requirements are intended to assist in standardizing procedures and maintaining uniformity and shall therefore be closely observed by all personnel handling grading assignments.

I. FACILITIES.

A. Grading Room:

1. Room - Clean and sanitary and free from disturbing elements which would interfere with proper concentration. Separate room desirable and under any circumstance, shall be adequate for accurate grading.
2. Temperature - The temperature range of the grading room should preferably be between 60° and 80° and should not be below 50°F.
3. Light - The light should be sufficient to accurately determine the degree of color as well as any defects in color.
4. Atmosphere - Clean and free from any foreign odors; smoking prohibited.

B. Equipment:

1. Trier - Stainless steel or chromium plated, no exposed metal, 12" to 15" blade.
2. Spatula - Steel or bone, desirable for removing butter from trier.
3. Scales - (when test weighing required) shall be graduated to at least 1/4 pound, preferably 1/8 to 1/16, and sensitive to at least 1/8 to 1/16 pound; should be balanced and tested at 0 and if test weights available should be checked for accuracy prior to weighing.

4. Absorbent paper - Should be clean and free from foreign odors and in adequate supply at all times.
5. Official grade and/or lot number stamps or other identifying stamps should be available as the situation may require.
6. Official graders memo to record gradings.

II. CONDITIONS.

A. Butter:

1. Temperature - Preferably ranging from 40° to 50°F. to permit easy identification of aroma and body defects.
2. Grader should not attempt to grade excessively hard butter (below 36°F.) or butter that is soft (above 60°F).
3. Butter subjected to freezing temperatures until frozen will ordinarily require tempering for 24 hours at room temperature of 70°F.
4. Butter in a semiliquid or very soft condition shall not be graded, nor shall a grade be placed on such butter after it has been resolidified.
5. Age - No official grade shall be placed on butter less than 48 hours after manufacture, except in cases where large lots from the same creamery may contain an occasional churning which is slightly below the minimum age limit. In cases where the grading of cream and the processing operation is under supervision of the grader, an official grade may be placed 24 hours after manufacture provided the butter is in proper condition.

III. SAMPLES FOR GRADING.

A. Selection:

1. Select one sample from each churning for grading. In cases where packages are not marked with churn number, select 10% of packages at random for grading (5% if 32-pound packages).
2. When butter is stored in dealer's place of business, the grader shall select samples. Where resident grader is employed, the grader will arrange for proper selection of samples. Under unusual or unavoidable circumstances, the grader may grade samples selected by dealers, providing samples of an additional 5% of churnings are drawn from the lot by the grader for spot-checking. If any irregularities or variations are found in spot-checking samples, the grader shall obtain additional samples of his own selection and, if necessary, delay grading until such samples are properly tempered. In

the event examination of additional samples is not possible, the grader shall indicate on memo that "samples graded selected by applicant". Do not show this information on grading certificate.

3. When butter is stored in public warehouse, samples may be drawn by an authorized representative of the warehouse.
4. Where the packages are not identified by churn numbers, the samples selected for grading shall be identified as Nos. 1, 2, 3, 4, etc.

IV. QUALITY DETERMINATION.

A. Bulk Butter:

1. The grader should first make certain that the facilities are adequate and that the butter is in proper condition for grading.
2. If possible, obtain manifest showing churning numbers, number of packages in each churning, and the total packages in the lot.
3. The containers should be opened so that the complete top surface is visible, permitting examination for mold development. Under no circumstances shall the plug be drawn by forcing the trier through fibre board containers. In case of storage butter, strip sufficient packages to determine if any mold development has taken place.
4. Insert trier at a slight angle to a sufficient depth to obtain a 10" to 12" plug. Give trier one-half turn and carefully withdraw.
5. Carefully note aroma of the butter for the entire length of plug, observe color and examine body by slightly pressing the plug with thumb until it shows a break. Evidence of leakiness or other body defects should be noted.
6. Remove 1/2" to 1" from the end of the plug, preferably with metal or bone spatula, and place in mouth; quickly melt butter to a creamy consistency, noting any mealiness or grittiness. Flavor characteristics will then be revealed, readily permitting identification of the most predominant flavor.
7. Replace plug, carefully folding liner over so that surface of butter will not be left exposed.
8. Immediately record on graders memo the flavor rating, any defects in body, color, and salt; intensity of color and salt, and the final U. S. score and grade of the churning and comments.
9. Flavor comments and listing of defects in body, color, and salt, and intensity of color and salt must be in accordance with the U. S. Standards and no other terms shall be used.

B. Print Butter:

In general all of the items discussed under grading of bulk butter, with the exception of Items 3, 4, and 7, will also apply to grading of print butter. In addition the following shall apply:

1. Prints or rolls should be broken open to determine aroma and flavor characteristics of the butter.
2. Examine the surface for aroma not evident in the interior. Any abnormal surface aroma or flavor must be considered in establishing the grade of the sample.
3. An official grade shall not be placed on a sample of less than one pound. Butter in "chiplet" form may be graded provided the sample package is intact and contains not less than one pound of butter. Abnormal surface flavors must be given consideration in determining the grade.
4. Samples shall be designated on the certificate by churn number or if such number is not available, by letter or number. Do not include brand name or trade-mark on the certificate.
5. An official certificate covering the grading of sample prints, or any other special samples, which have not been selected by the grader as representative of a certain lot shall show the following statement:

"The foregoing statement of quality or grade of the samples examined applies only to the particular samples examined and is not an opinion of the quality of the lot from which these samples were taken or of the product sold under a brand name or trade-mark."

C. Butter with Abnormal Surface Conditions and Flavors:

1. Mold development -
 - (a) Any package of butter showing mold on surface of butter or on packing material shall be stripped to determine extent of mold.
 - (b) In case one or more churnings in a lot of butter shows mold on surface of butter or on packing material, each individual churning shall be given a flavor rating, but shall be classified under final score and graded as "No Grade".
 - (c) In case the mold has penetrated the butter to the extent that it cannot be removed by scraping a thin layer of butter from the surface, the entire lot shall be classified as "No Grade" and such individual churnings shall not be given either a flavor rating or final U. S. score or grade.
 - (d) In cases where a carlot of bulk butter is comprised of lots of butter from various creameries and mold is found in one or more lots, the remaining lots shall be graded independently. In such

instances, two separate certificates may be issued; one covering the lot or lots of butter possessing mold and the other covering the lots free from mold. However if it is evident that the mold condition did not originate at the creamery but resulted from unfavorable storage conditions, the entire carlot shall be classified as "No Grade" and only one certificate need be issued.

- (e) In case mold is found on any churning of print butter where the entire carlot has been printed in one plant, the entire carlot shall be classified as "No Grade".
- (f) The certificate issued covering lots under (b) and (c) shall include under "remarks" the following:
"This lot of butter classified as 'No Grade' because of mold noted on surface or penetrating butter and packing material churning or churnings -----(state churning and extent of mold)".
- (g) Lots of butter which have been reconditioned and thoroughly cleaned from surface mold may be given a U. S. Grade. The covering certificate shall in such cases carry a notation to the effect that the lot has been reconditioned and that all evidence of mold has been removed.

2. Abnormal surface flavors and "No Grade" -

- (a) In accordance with the U. S. Standards, the flavors tallowy, rancid, varnish, paint, gasoline, kerosene, fly spray, or other chemicals shall be classified as "No Grade". However, if these flavors are present only on the surface, a flavor rating shall be given for the interior quality, classifying each churning as "No Grade" and giving proper comments with respect to character of flavor present. Other flavors listed in the U. S. Standards under "No Grade" shall be classified as "No Grade" irrespective of interior quality.

V. PART LOT GRADINGS.

- A. When an official grading is made on only part of the churnings in the lot, the covering certificate shall carry the notation "part lot grading". Total number of packages in the lot as well as total weight should be shown on the certificate.

VI. COLOR AND SALT SYMBOLS.

A. Color:

- 1. The degree of color shall be indicated for each churning by the use of the following symbols:

- VL (Very Light)
- L (Light)
- M (Medium)
- H (High)
- AH (Abnormally High - one point cut)

2. Defects in color shall be given a numerical rating in accordance with the U. S. Standards.

B. Salt:

1. The intensity of salt taste shall be indicated as follows:

L	(Light)
M	(Medium)
MH	(Medium High)
H	(High)

2. Defects in salt shall be given a numerical rating in accordance with the U. S. Standards.

VII. ESTABLISHING FINAL U. S. SCORE OR GRADE.

A. When Churnings Properly Marked:

1. Establish the flavor rating in accordance with the official U. S. Standards. If there are no defects in body, color and salt, the official U. S. grade will be identical with the flavor rating except as noted in Section C, covering surface flavors and mold conditions.

B. When Containers Not Marked with Churning Numbers:

1. If the packages are not marked with churning numbers and there is a variation in the quality of the samples graded, the entire lot shall be classified as of the grade represented by the lowest scoring sample in the lot.

VIII. COMMERCIAL, CERTIFICATE OF QUALITY, AND CONTRACT GRADINGS.

A. Commercial Gradings:

1. Gradings covering transactions between creamery and wholesaler, wholesaler and distributor, or between any of these handlers are referred to as commercial gradings.
2. Complete and detailed information must be shown on certificate, including flavor rating, any defects in body, color and salt, degree of color, intensity of salt, and final U. S. score and grade for each individual churning. Comments with reference to flavor and any defects in body, color, and salt must be in accordance with U. S. Standards.
3. Whenever possible, churning numbers should be listed in rotation. Include number of packages in each churning if this information can be obtained.
4. The type and condition of container and whether new, reconditioned, or used shall be indicated under "remarks" on the certificate.

5. Individual packages in the lot may or may not be stamped with the appropriate stamp in accordance with the desires of the applicant. The individual packages selected for samples shall be double stamped for identification, preferably with USDA lot number stamp. In case packages in the lot are stamped, the grading certificate shall show in space provided therefor extent of stamping and stamp identification.

B. Certificate of Quality Gradings:

1. Follow same procedure as outlined under Section VIII, Item A, "Commercial Gradings", and place the following applicable statement under "remarks" on the grading certificate: "For certificate of quality".
2. Gradings for certificate of quality shall be made only for those firms having authority to package butter with certificate of quality.
3. Keeping quality samples shall be taken from all churnings of butter used for packaging with certificates of quality in accordance with instruction in "Requirements for the Packaging of Butter and Eggs under Certificates of Quality and/or Grade Labels".

C. Grading for Delivery on Contracts:

1. Contract gradings refers to gradings covering deliveries on specified contracts for such agencies as DPMA, CCC, U. S. Army, U. S. Navy, U. S. Coast Guard, U. S. Marine Corps, Veterans Administration, U. S. Department of Interior, War Shipping Administration, State, County, and City Institutions, and Private Institutions, etc.
2. Except for DPMA and WSA purchase programs, it is not necessary to show descriptive information on certificate for various quality factors but the U. S. score or grade shall be shown either for individual churnings or for entire lot if lot is of same grade.
3. The "Purchase Order" number shall be shown on the grading certificate whenever available. If not available, indicate this fact on the certificate.
4. On deliveries involving print butter, the packages containing print butter should be identified by the original churn numbers. If the original churning numbers are not properly marked on print containers, select at random at least 10% (5% if 32-pound boxes) of the packages in the lot for grading. If there is any variation in the quality or score of the samples graded the lot will be accepted or rejected on basis of lowest scoring sample, and the lot shall be classified as of the grade represented by the lowest scoring sample in the lot.
5. In addition to noting the specified grade, it is essential that the grader familiarize himself with other contract specifications in order that all contract requirements can be checked at the time of grading.

6. The individual packages selected for grading shall be double stamped and, except for DPMA, the remaining packages in the lot shall be stamped with one of the following stamps:
 - (a) Score and date of grading.
 - (b) U. S. Veterans Administration.
 - (c) U. S. Marine Corps.
 - (d) USDA Lot Number.
 - (e) WSA or other special stamp as may be required. Indicate on grading certificate which stamp was used. In case of gradings for DPMA or WFA, please be governed by applicable memorandum of instructions.
7. All stamps must be applied in a legible manner and should be applied uniformly on the end or side of the containers.
8. Gradings for Office of Price Administration shall be handled in accordance with special instructions issued for handling of such assignments.

IX. WEIGHING PROCEDURE.

A. General Requirements for All Test Weighing:

1. Balancing the scales - before making weight test, the scales should be balanced and tested for accuracy by the use of test weights. No butter should be officially weighed on a scale that is not graduated to at least 1/4 pound and preferably 1/8 to 1/16 pound.
2. Selection of samples - weight tests should be made by weighing one sample from each churning in the lot. If the packages are not identified by churn numbers, the test weight shall be made by weighing 5% of the packages in the lot.
3. Weighing - in case of package containing less than 50 pounds each, weigh two packages at one time. The packages shall be stripped and the butter placed on the scale including circles and liners (tubs), liners (boxes or cubes), or wrappers and liners (prints) with any excess salt removed. After deducting tare, record net weight. The tare weight of liners, circles, etc. shall be on the following basis (based on 27 to 30 pounds parchment stock):

tub liners and circles	- 2 ounces when damp and 3 ounces when wet
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60-68 pound cube liners	- 3 ounces when damp and 4 ounces when wet
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60 pound box print liners plus wrappers	- 9 ounces when damp and 10 ounces when wet
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4. Normally after weight of liners or wrappers has been deducted, weights are recorded in units of pounds or quarter pound fractions thereof. Intermediate fractions shall be recorded as next lower pound or quarter-pound fraction thereof.
5. Methods of handling shortages and the computation of the total net weight of the lot shall be in accordance with the instructions outlined under the applicable type of grading.

B. Test Weighing (commercial gradings):

1. General requirements under "A" will apply.
2. Test weights should be recorded in actual pounds or quarter-pound fractions thereof unless applicant so desires and adequate scales are available, in which case test weights may be recorded in pounds and ounces.
3. In making test weights in connection with commercial gradings, the main function will be to show actual test weights, leaving the matter of computing total weight to buyer and seller.
4. Total weight of product graded and weighed shall be shown on certificate in space provided therefor as total marked weight. If applicant specifically requests that total weight shall be computed on basis of test weights, the shortages will be computed on individual churnings. Overweights will not be considered in computing total weight. In such cases, show marked weight, test shortage and net weight in body of certificate, leaving marked weight in space provided therefor. Where more than one grade is involved, the weight for each grade shall be computed separately.

C. Test Weighing (contract gradings):

1. General requirements under "A" will apply.
2. Except for WSA and DPMA, test weights shall be recorded as follows:
 - (a) If the test weights equal or exceed the marked net weight, record the weight as OK and multiply the marked net weight by the total number of packages in the lot to arrive at "Contractors Net Weight".
 - (b) If the test weight for any individual churning is below the marked net weight, show actual net weight and multiply shortage by the number of packages in the churning to arrive at shortage. To compute net weight of lot, subtract total shortage from marked net weight.
 - (c) In case number of packages in each churning is not known, weigh 5% of packages. Any shortages should be averaged and multiplied by the total number of packages in the lot to arrive at total pounds shortage and this amount subtracted from marked net weight to arrive at "Contractors Net Weight".

X. CONTAINERS.

A. Kind and Condition of Containers:

1. The kind and condition of containers shall be indicated on memo and covering certificate. For tubs, the kind of wood should also be indicated.
2. New containers are containers of any kind that are used for the first time.
 - (a) New tubs opened for grading should have covers replaced so that the nails can be replaced in the original holes.
3. Reconditioned containers are those that have been used but have been properly reconditioned before subsequent use.
 - (a) A reconditioned container is one that has been thoroughly cleaned inside and outside, and has all previous marks completely removed. In addition, a reconditioned tub has all rusty hoops and cover rims replaced or painted and all nail holes filled.
4. Used containers are those that have been used more than once without being reconditioned. They may be soiled and retain previous markings. In addition used tubs may have rusty hoops, rusty cover rims, and open nail holes.
5. In the event there is doubt or some question relative to the condition of containers, the grader should inspect the entire lot.

XI. REGRADINGS AND APPEAL GRADINGS.

A. Regradings:

1. Requests for regradings shall be handled in accordance with Paragraph 55.27, SRA-137, revised January 2, 1942
2. Gradings involving product previously graded shall be considered regradings unless applicant questions the correctness of the previous grading, in which case it will be considered an appeal grading.
3. The regrading certificate shall supersede and refer specifically to the previous certificate issued on the product. Any superseded certificate shall be handled in accordance with Paragraph 55.31, SRA-137.
4. If the application for an appeal grading is refused or the personnel for making an appeal grading is not available, a regrading may be made.
5. Regradings are usually made after a lapse of time from the original grading to determine if any change or deterioration in quality has taken place. Such gradings should not be confused with appeal gradings which question the correctness of the original grading.

B. Appeal Gradings:

1. Requests for appeal gradings shall be referred to the Regional Dairy Products Supervisor for the area or to the Washington office.
2. Regional supervisors responsible for the handling of the requests for appeal gradings shall proceed to handle such gradings in accordance with instructions contained in SRA-137, Paragraphs 55.22 to 55.31.
3. Appeal gradings shall be conducted jointly by two official graders whenever practicable and such personnel shall be designated by the responsible supervisor or the Washington office.
4. The appeal grading certificates shall supersede and refer specifically to the original grading certificate from which the appeal was taken and shall clearly indicate whether it sustains or reverses the original grading.
5. Generally the original grading shall be sustained if the appeal grading does not vary from the original grading on more than 15% of the churnings and provided the variation is no more than one grade on any individual churning.

XII. GRADERS MEMORANDUM.

A. Preparation of Official Memo:

1. An official butter graders memo shall be executed in detail at the time of grading. All information desired on the certificate shall be shown on the graders memo.
2. For commercial gradings, the memo shall include detailed information with reference to flavor, body, color, salt, and the U. S. Grade and any necessary comments for each churning.
3. For contract gradings for Federal agencies, DPMA and WSA excepted, the memorandum need not show detailed information for each churning graded, but the memo shall clearly indicate the U. S. grade of the lot and whether the product meets all contract requirements. If available, the order number shall also be shown.
4. The memo shall indicate whether the product was stamped and if so, the stamp used.
5. The official memo should be signed by the grader in ink or with indelible pencil.

B. Disposition:

1. The memo shall be filed with the grader's copy of the covering grading certificate.

XIII. FEES.

A. For Grading:

1. The fees charged shall be those specified in SRA-137 or as subsequently amended except for gradings made on a contract basis.
2. Fees normally are based on the number of churnings or weight, however, if considerable time is involved and it is more equitable, the fee may be based on time. No charge based on time shall be in units of less than 1/4 hour.
3. An additional \$3.00 charge is made for any grading in a car on team track.
4. Gradings made on a contract basis shall have the word "contract" inserted in the space provided for fees.
5. Fees for appeal grading, except team track charge, shall be double those of original grading except that no fee shall be charged when the original grading is reversed.

B. For Making Weight Tests:

1. The fee for making weight tests shall be based on actual time consumed at the prescribed hourly rate charged.

C. For Stamping Containers:

1. The fee for stamping of containers shall be based on actual time at the prescribed hourly rate of charge, however, when grading fees involving small lots are based on number of churnings, no additional charge need be made for stamping containers unless the fees charged do not adequately compensate for the time involved.

XIV. CERTIFICATES.

A. Preparation:

1. A separate certificate shall be issued for each lot of butter graded except where butter is to be used for certificates of quality or a carlot is comprised of butter from several lots and applicant desires entire carlot to be covered by one certificate.
2. Certificates for commercial gradings shall be prepared in detail, giving complete information for each churning graded.
3. Certificates covering gradings for contracts should be prepared the same as for commercial gradings except the details with reference to each individual churning need not be given. The certificates should show the grade of the lot and indicate whether it complied with all contract requirements.

4. The certificate shall be signed in ink or with indelible pencil.

B. Distribution:

1. The original and such copies as may be requested go to the applicant.
2. The grader or the office out of which he works retains one copy.
3. If certificate is for commercial grading, one copy shall be for the Washington office, and if contract grading for Federal Agencies two copies shall be for the Washington office.

Federal Specifications for butter, C-B 80lb, dated February 2, 1944, and Veterans Specifications, dated April, 1945, should be available in order that each grader may become fully acquainted with the requirements contained therein.

B. J. Ammodt

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